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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,187	06/26/2001	Robert C. Qiu	4648-105 US	1738

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MATHEWS, COLLINS, SHEPHERD & GOULD, PA  
100 THANET CR, SUITE 306  
PRINCETON, NJ 08540

EXAMINER

GESESSE, TILAHUN

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/892,187

Applicant(s)

QIU, ROBERT C.

Examiner

Tilahun B Gesesse

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8,11-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadri (US 6,690,652) in view of Olofsson et al "Olofsson" (6,167,031).

As to claims 1,11, Sadri discloses a method for long long-range prediction of fading signals for high speed downlink packet access from a base station to a mobile unit (figure 3 and abstract) comprising: generating a prediction of fast flat fading (column 5, lines 41-50, column 6, 13-15 and item #158 of figure 2C, column 7, lines 10-13).

Sadri does not specifically teach selecting transmitting parameters as a function of the prediction of fast flat fading.

However, Olofsson discloses selecting transmitting parameters as a function of the fast flat fading (column 12, lines 6-17 and figure 8). Since, in the same field of endeavor, teach transmitting power control and rate change to improve fast fading (column 7, lines 50-60). Therefore, it would have been obvious to one of ordinary skill

in the art at the time of the invention was made to combine Sadri and Olofsson in changing parameters , as taught by Olofsson, in order to minimize fast fading channels during communication between base station and mobile unit.

As to claims 2-5,12-16 Sadri discloses the transmitter parameters includes coding rate , modulation level, power allocation and multi-codes (column 8, lines 15-37 and figures 5 and 8)

As to claims 6, 17, Sadri discloses the transmitter parameters includes number of rate matching bits required to fill a frame (column 8, lines 26-37).

As to claims 7-8 and 18-19, Sadri does not specifically discloses the transmitter parameters includes ARQ and selection of cell. However, Olofsson discloses ARQ and selection of cell (column 6, lines 27-31, column 11, lines 24-33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Sadri and Olofsson in using parameter for selecting cell and ARQ, as taught by Olofsson , in order to minimizing the fast fading channel.

4. Claims 10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadri and Olofsson and further view of Winters et al "Winters"(6,658,261).

As to claims 10 and 21, Sadri and Olofsson do not specifically teach users Root-MUSIC method. However, Winters discloses predicting fast fading , applying a root-MUSIC (abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Sadri, Olofsson and Winters in using root MUSIC , as taught by Winters , in order to minimize to the fast fading channel.

5. Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadri and Olofsson and Weerackody et la "Weerackody" (6,157,612)

As to claims 9 and 20 and Olofsson do not specifically teach uses maximum entropy method. However, Weerackody teach fast fading channel decodes using entropy method (column 8, lines 65-column 9 line 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Sadri , Olofsson and Weerackody in decoding using entropy method , as taught by Weerackody , in order to minimize fast fading communication channel between base and mobile station.

6. Claims 11 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sadri and Olofsson and further in view of De Gaudenzi et al (6,466,566).

As to claims 11 and 22 Sadri and Olofsson do not specifically teach uses MMSE AR method . however, De Gaudenzi et al disclose the uses MMSE method (column 1 , lines 50-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Sadri, Olofsson and De Gaurdenzi in using MMSE method for fast fading channel , as taught by Gaudenzi , in order to normalize the fast fading cahnnel.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(2000IEEE) long range prediction of fading signals (page 63 column 1, lines 10-50 and page 65, lines 7-35).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tilahun B Gesesse whose telephone number is 703-308-5873. The examiner can normally be reached on flex.

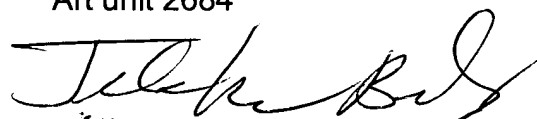
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TBG

March 16, 2004

Art unit 2684

  
TILAHUN GESESSE  
PATENT EXAMINER